

Public Health Workers in the Labor Force

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SOME MAIN features of the occupational patterns of public health workers—geographic location, employment status, professional experience in public health, professional titles and roles, sources of income, and work settings—have been examined at the National Institute of Mental Health (1). The findings were derived from a survey conducted in 1968 among U.S. citizens who had received a master's degree during 1961–67 from one of 11 accredited schools of public health (Berkeley, Columbia, University of California Los Angeles, Harvard, Johns Hopkins, Michigan, Minnesota, North Carolina, Pittsburgh, Tulane, and Yale) in the continental United States. Questionnaires were mailed to 4,459 graduates listed on rosters prepared by these schools. The response rate was 3,115 or 69.9 percent.

Background of Respondents

An overwhelming majority (83.3 percent) of the respondents who participated in this study lived or worked in large metropolitan areas of the continental United States. Seven of ten (71 percent) were living or working in a metropolitan area of at least 250,000 population, one in eight (12.3 percent) was in a metropolitan area of less than 250,000, and just over one of six (16.8 percent) was in a nonmetropolitan area.

A majority (57.4 percent) were concentrated in three regions: the Pacific (20.6 percent), the South Atlantic (20.3 percent), and the Middle Atlantic (16.5 percent). Relatively small numbers of public health workers were located in the East North Central, East South Central, West South Central, West North Central, and Mountain regions.

Almost half of the respondents (48.4 percent) were 35 years old or under at the time of the survey. More than two-thirds (67.5 percent) were men; the women were likely to be older than the men. Before attending a school of public health, most respondents (83.6 percent) had acquired a primary profession, usually in health or a related field. Physicians (19.4 percent) and nurses (15 percent) comprised the two largest professional groups. Three-fourths of all the respondents (75.3 percent) received an MPH degree; among the

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remainder, almost equal numbers of respondents each had received an MSPH, MS Hygiene, MHA or MSHA, or some other master's degree.

Public Health Experience

Employment status. A substantial majority of all the respondents (2,848 or 91.4 percent) was employed. Most of them (96.5 percent) were working full time; a few were working part time (3.5 percent). Among the employed respondents, 94.2 percent were working in the health field, and 5.3 percent were not. The employed respondents working outside the health field, together with the unemployed respondents, comprised 12.1 percent of those outside the health field labor force at the time of the survey. Thus, better than one of eight respondents were either unemployed or working either permanently or temporarily outside the health field.

The overall unemployment rate was 7.2 percent. Among women the unemployment rate (11.6 percent) was more than twice that of men (5.2 percent). One-third of the unemployed (33.5 percent) were looking for work in the health field; three of five (59.8 percent) indicated that they were not.

Experience status. Among the graduates from schools of public health who participated in this study, 12 percent had no professional experience in public health. The remainder reported the following years of experience:

<i>Public health experience (years)</i>	<i>Percent</i>
Less than 1.....	3.7
1-4.....	26.9
5-9.....	30.3
10-14.....	14.2
15 or more.....	10.2

Cumulatively, 85.3 percent of all the respondents had professional public health experience at the time of the survey.

The highest percentage of respondents who graduated from seven schools (Berkeley, Columbia, Johns Hopkins, Michigan, Minnesota, North Carolina, and Tulane) had 5 to 9 years of experience. Among graduates of four schools (UCLA, Harvard, Pittsburgh, and Yale) the modal period of experience in the field was 1 to 4 years. The highest percentages of respondents without any professional public health experience were from UCLA (21.4 percent) and Harvard (19 percent).

Age, particularly among the youngest (25 years old and under) and the oldest groups (56 years old and over), appears to be clearly related

to professional experience in the field. The youngest group had the highest percentage without any experience and the oldest group, the highest percentage with the most years of experience. For those 31 to 55 years old, no clear-cut association existed between age and years of professional experience. Other factors in the composition of the population and requirements of the field may have affected the age-experience relationships.

Fluctuations in the total number of years of experience in public health work seemed to be associated with complex factors in the job market and in personnel and employment practices, including incentive programs for study linked to promotions. Public health experience may be bypassed altogether as a requirement for admission to schools of public health.

Currently, accreditation guidelines provide leeways for substituting professional public health experience for certain types of training and related experience for admission to certain degree programs (2). In fact, 34 percent of all the respondents indicated that they did not have public health experience before entering a school of public health. The percentage of respondents without public health experience before entering a school of public health ranged from 52.7 percent in the UCLA group to 21.2 percent in the Michigan group.

Current Work of Respondents

Evidence indicates that graduates from the schools of public health tended (a) to work in the same curricular area as that of their major program in a school of public health and (b) to choose a major program in the same curricular area as that of their primary profession or in one closely related to it. The findings suggest a tendency toward continued specialization in a profession as well as limited mobility within the public health field. These issues affect the scope and goals of public health training as well as the options available for generalists who can perform work in a variety of specialized areas. Admittedly, though, situational factors, such as career ladders, experience requirements, promotional considerations, demands, opportunities, and rewards for advanced knowledge could provide incentives for specialization.

Major curricular areas. The five principal areas in which 57.3 percent of the respondents had majored were:

<i>Major curriculums</i>	<i>Percent</i>
Administration or practice of public health.....	15.6
Medical care, hospital administration, administrative medicine.....	13.3
Environmental health, public health engineering, sanitary science.....	10.3
Public health nursing.....	9.9
Health education.....	8.2

The remaining respondents were in 19 other curricular areas.

A relationship was noted between the primary profession of the respondents and the major curricular area selected. Respondents from 22 specific primary professions had majored in medical care and hospital administration or administrative medicine; from 21 professions, in administration or practice of public health; and from 18 professions, in health education. In contrast, respondents from only two professions had majored in rehabilitation and physical therapy, two had majored in social work in public health, and one had majored in veterinary public health.

Generally, respondents pursued a major program in the same field or a field closely related to that of their primary profession, as illustrated by the following examples:

Administrators including hospital administrators tended to major in medical care and hospital administration or administrative medicine (59.3 percent).

Bacteriologists, laboratory scientists, and parasitologists tended to major in microbiology and laboratory public health or in tropical medicine, entomology, and parasitology (58.4 percent).

Dentists tended to major in public health dentistry or in administration or practice of public health (78.3 percent).

Dietitians and nutritionists tended to major in nutrition and biochemistry (92.3 percent).

Educators and teachers tended to major in health education or in medical care and hospital administration or administrative medicine (57.4 percent).

Engineers tended to major in environmental health, public health engineering, and sanitary science (76.6 percent).

Health educators tended to major in health education (75.3 percent).

Mathematicians, statisticians, and programmers tended to major in biostatistics (80.5 percent).

Nurses tended to major in public health nursing (63 percent).

Physicians tended to major in administration or practice of public health, in maternal and child health, or in epidemiology (57.1 percent).

Sanitariums tended to major in environmental health,

public health engineering, and sanitary science (64.5 percent).

Social workers tended to major in medical care and hospital administration or administrative medicine, or in social work in public health (62.9 percent).

Veterinarians tended to major in epidemiology or in veterinary public health (61 percent).

A majority of respondents who did not specify a primary profession tended to major in medical care and hospital administration or administrative medicine, in administration or practice of public health, or in health education.

Primary professions and work. Nearly three of four respondents (73.5 percent) were working in the same curricular area as that in which they had majored in a school of public health. Of those not working in the curricular area in which they majored, 29.5 percent did not specify the nature of their current work, and 14.9 percent were working either in administration or practice of public health or in medical care and hospital administration or administrative medicine. Within the group of respondents working in curricular areas other than their major, the smallest gains were made in the behavioral sciences (0.4 percent), biostatistics (0.5 percent), physiological hygiene and environmental medicine (0.1 percent), radiation health (0.5 percent), and social work in public health (0.5 percent).

Functional professional titles. Of the employed respondents, 21.4 percent had the title of administrator, 9.3 percent had the title of public health nurse, and 7.7 percent had the title of public health physician. The title of health educator was indicated by 7.2 percent and that of public health engineer or sanitarian by another 7.2 percent. Identifying themselves as laboratory scientists were 5 percent and as biostatisticians, 3.5 percent. The largest category of respondents (27.7 percent) noted their title as "other" and generally identified their specific title either by their primary profession, discipline, primary specialty, role, or university faculty rank; for example, physician, health educator, public health nurse, epidemiologist, planner, teacher, or professor.

The highest percentage of respondents who graduated from Columbia, Minnesota, and Yale reported the title of administrator, while the highest percentage of respondents from each of the remaining eight schools noted "other" as their professional title.

Professional roles. Of those employed, 31.5

percent reported that they had executive-administrative roles. The second largest group of respondents (16.3 percent) described their work role as consultative. The third group included those in instructional roles (10.3 percent) and in research roles (10 percent). Staff roles were identified by 9 percent and supervisory roles by 7.8 percent. "Other" roles were ascribed by 5 percent, and another 10.2 percent either did not answer or indicated more than one major role or combination of roles, such as executive-administrator-supervisor or coordinator-supervisor. Illustrative of the "other" replies were roles relating directly to clinical and diagnostic work, planning, and coordination.

The highest and lowest percentages of respondents from each school were in the following professional roles:

<i>Role and school</i>	<i>Highest and lowest percent</i>
Executive-administrative:	
Columbia.....	48.7
Tulane.....	19.8
Consultative:	
North Carolina.....	22.1
Harvard.....	8.8
Instructional:	
Tulane.....	18.7
Yale.....	4.5
Research:	
Harvard.....	20.1
Minnesota.....	4.1
Staff:	
UCLA.....	12.0
Harvard.....	11.8
Johns Hopkins.....	11.7
Tulane.....	5.5
Supervisory:	
Tulane.....	14.3
UCLA.....	3.4
Other:	
UCLA.....	10.3
Minnesota.....	2.4

The highest percentages of respondents from each school were in executive-administrative roles.

Analyses of occupational roles by age, sex, and professional title indicated that research and teaching appeared to attract younger graduates. Executive-administrative and supervisory jobs appeared to attract more mature respondents. Consultative roles appeared to be more prevalent among the oldest workers. Men reported certain roles more frequently than women; namely, executive-administrative, research, and staff. Women more often reported such roles as consultative, instructional, and supervisory.

Health educators had the highest percentage of respondents in consultative roles (35.4 percent)

and instructional roles (25.2 percent). Laboratory scientists had the highest percentage in research (60.3 percent). Administrators had the highest percentage in executive-administrative roles (78.2 percent). The highest percentages in staff roles were among public health engineers or sanitarians (12.7 percent) and "others" (12.8 percent). The highest percentage in supervisory roles (24.5 percent) was among public health nurses.

Patient care functions. Relatively few employed respondents (19.6 percent) were engaged in direct patient care; a large majority (70.6 percent) had jobs that did not require such functions. For example, less than half of the physicians (44.5 percent), one-fifth of the nurses (20.9 percent), and more than one-fourth of the dentists (27.7 percent) were engaged in direct patient care. The highest percentage of respondents with jobs involving direct patient care was 39.7 percent in the Harvard group; the lowest was 9.8 percent in the Yale group.

Principal sources of professional income. The Federal Government (25.1 percent, uniformed and civilian services combined) was the principal source of income for more of the employed respondents than State governments (20 percent) or county, city, or other local governments (15.3 percent). Although the private sector (20 percent) was far behind government (60.4 percent) as a principal source of income, within the private sector voluntary agencies or institutions (13.2 percent) were the next most frequently reported principal source of income. Self-employment, profit-making organizations, and all "other" categories were the principal sources of income for only a few respondents.

In city, county, and other local governments, in the Federal Government uniformed service, in voluntary agencies and institutions, and in "other" nonspecified principal sources of professional income, the highest percentage of respondents was in executive-administrative roles. In State governments and in private profit-making organizations, the highest percentage was in consultative roles. In the Federal Government civilian service, the highest percentage was in research roles. Among the self-employed, the highest percentage was in "other" nonspecified roles.

Respondents from each school, except Columbia and Yale, indicated as their principal source of income one level of government. The highest percentage of respondents identifying government as their principal source of income was 69.1 per-

cent in the North Carolina group; the lowest percentage was 42.8 percent in the Yale group. The highest percentage of respondents from any school working in the private sector was 36.9 percent in the Columbia group, and the lowest percentage was 13.2 percent in the Tulane group.

The Federal Government was the principal source of income for 46.6 percent in the Harvard group, but only 11.5 percent in the Columbia group. In the Harvard group, 31.9 percent were in the Federal Government uniformed services and in the Columbia group, 4.3 percent.

The highest percentage of civilians in the Federal Government was 15.8 percent in the Johns Hopkins group, and the lowest was 7.2 percent in the Columbia group. The Federal Government, civilian and uniformed services combined, was also the principal source of income for higher percentages of respondents from Berkeley (24.8 percent), UCLA (21.7 percent), Harvard (46.6 percent), Johns Hopkins (41.5 percent), Michigan (23.5 percent), Pittsburgh (27.1 percent), Tulane (24.2 percent), and Yale (22.3 percent) than either State governments or county, city, or other local governments singly.

The highest percentage of respondents from any school employed by State governments was 31.4 percent from North Carolina. The lowest percentages were 10.7 percent from Pittsburgh and 10.9 percent from UCLA. The highest percentages of employed respondents whose principal source of income was county, city, and other local governments were 20.2 percent in the Berkeley group and 20.3 percent in the Columbia group. The lowest was 4.9 percent in the Harvard group.

Within the private sector, voluntary agencies or institutions were noted as a principal source of income by higher percentages of respondents from each school than were self-employed or profit-making organizations.

Yale had the highest percentage (29.5 percent) noting voluntary agencies or institutions as their principal source of income; this percentage exceeded that reported by Yale respondents for any single level of government. Among Columbia graduates as well, voluntary agencies or institutions were noted as the principal source of income by a higher proportion of respondents (27.5 percent) than any level of government. To only a few (1.8 percent), self-employment was the principal source of income; in fact, the highest proportion for any school was UCLA's 6.9 per-

cent. Minnesota and Tulane graduates did not report self-employment as a principal source of income.

A relatively small number (5 percent) indicated as a principal source of professional income a private profit-making organization. In the UCLA group, 9.7 percent derived their income principally from a private profit-making organization; among Tulane respondents, only 1.1 percent indicated such an organization as a principal source of income.

Principal work setting. The following principal places of work were reported by employed respondents:

<i>Principal work setting</i>	<i>Percent</i>
Health.....	52.1
Academic.....	16.6
Other:	
School systems.....	1.2
Welfare or social agencies.....	1.3
Mental health.....	2.2
Industry or business.....	3.7
Private practice.....	1.7
Unspecified establishments.....	8.1
Nonrespondents.....	13.1

Within health settings, over 2½ times more respondents worked outside a hospital than within a hospital setting. Of those working in academic settings, the largest group worked in colleges or universities. Substantially fewer worked in medical or other health professional schools. The smallest group worked in schools of public health.

In hospitals and health agencies other than hospitals, in mental health settings including hospitals, and in "other" settings the highest percentages of respondents were in executive-administrative roles. In colleges and universities and medical and other health professional schools, not including schools of public health, the highest percentage of respondents was in instructional roles. In schools of public health, the highest percentage was in research. Of those in business and industry, the highest percentage was in consultative roles.

REFERENCES

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Baseline findings were presented on the characteristics of professional public health workers in the labor force who responded to a questionnaire survey in 1968 of U.S. citizens who had received master's level degrees during 1961-67 from 11 accredited schools of public health. These graduates tended to be located in large metropolitan areas of the United States, to work in the health field, and to have jobs in administrative spheres not involving direct patient care.

A majority of the public health graduates worked for government, and the Federal Government was the principal source of income for more of them than

either State or local governments.

Almost half of the respondents (48.4 percent) were 35 years old or younger at the time of the survey. More than two-thirds (67.5 percent) were men; the women were likely to be older than the men.

Physicians (19.4 percent) and nurses (15 percent) comprised the two largest professional groups. Three-fourths of all the respondents (75.3 percent) received a master of public health degree, and among the remainder almost equal numbers of respondents had received a degree of master of science in public health, master of science in hygiene, master of hospital administration or master of science in

hospital administration, or some other master's degree.

The graduates were far from forming a uniform or single occupational group since they had a variety of professional backgrounds and had pursued major programs in schools of public health that were related to their primary professions.

At the time of the survey the majority were likely to be working in the same curricular area as that in which they had majored in a school of public health. Their training in a school of public health appears to have facilitated their continuing in career directions congruent with their backgrounds and leading toward specialization.